

IN THE CLAIMS

The following listing of claims replaces all previous versions.

1. (Currently Amended) A system for wireless communication utilizing a first wireless band and a second wireless band, comprising:

a first wireless device including a first dual-band wireless transceiver and a smart antenna, the first wireless device, using the smart antenna, uni-directionally transmitting payload data exclusively on the first wireless band during a time period, without having to reserve the first wireless band prior to transmission and without sensing for communication activity on the first wireless band prior to transmission; ~~and~~

~~at least one~~ a second wireless device including a second dual-band wireless transceiver, the second wireless device acknowledging reception of the payload data using at least one of the first wireless and second wireless bands by omni-directionally transmitting acknowledgement data during the time period; and

a third wireless device including a third dual-band wireless transceiver configured to omni-directionally transmit payload data to the first wireless device exclusively on the second wireless band during the time period and simultaneously with the transmission of the payload data by the first wireless device.

2. (Currently Amended) The system according to claim 1, wherein the second wireless device omni-directionally transmits further payload data using only the second wireless band, the second wireless device reserving the second wireless band prior to transmission of the further payload data.

3. (Currently Amended) The system according to claim 1, wherein the first wireless band is ~~5 GHz~~ a 5 GHz band and the second wireless band is a 2.4 GHz band.

4. (Currently Amended) The system according to claim 1, wherein prior to uni-directionally transmitting the payload data via the first wireless band, the first wireless device determining location of the second wireless device.

5. (Currently Amended) The system according to claim 1, wherein the first wireless device omni-directionally transmits data using the second wireless band to the second wireless device, the first wireless device reserving the second wireless band prior to the transmission.

6. (Currently Amended) The system according to claim 2, wherein the uni-directional transmission of the payload data from the first wireless device to the second wireless device via the first wireless band and the omni-directional transmission of the further payload data from the second wireless device to the first wireless device via the second wireless band are simultaneous.

7. (Original) The system according to claim 6, wherein coverage areas of the corresponding uni-directional transmissions are substantially similar.

8. (Currently Amended) The system according to claim 1, wherein the first wireless device is an access point.

9. (Currently Amended) A method for wireless communications, comprising:

a) uni-directionally transmitting payload data by a first wireless device to ~~at least one~~ a second wireless device ~~on~~ using a first band during a time period, the first wireless device using a smart antenna for the transmission of the payload data, the first wireless device transmitting the payload data without having to reserve the first band and without sensing for communication activity on the first band prior to transmission; ~~and~~

b) after the step a, omni-directionally transmitting acknowledgment data, during the time period, by the second wireless device to acknowledge receipt of the payload data using at least one of the first and second band; and

c) simultaneously with step a, and during the time period, transmitting second payload data by a third wireless device to the first wireless device exclusively on the second band.

10. (Currently Amended) The method according to claim 9, further comprising:
omni-directionally transmitting further payload data by the second wireless device to the first wireless device using the second band, the second wireless device having reserved the second band prior to transmission of the further payload data.

11. (Currently Amended) The method according to claim 9, wherein the first band is ~~5 GHz~~ a 5 GHz band and the second band is a 2.4 GHz band.

12. (Currently Amended) The method according to claim 9, further comprising:
prior to uni-directionally transmitting the payload data via the first band, determining a location of the second wireless device.

13. (Currently Amended) The method according to claim 9, further comprising:
omni-dimensionally transmitting by the first wireless device data using the second band to the second wireless device, the first wireless device reserving the second band prior to the transmission.

14. (Currently Amended) The method according to claim 9, wherein the uni-directional transmission of the payload data from the first wireless device to the second wireless device via the first band and the omni-directional transmission of the further payload data from the second wireless device to the first wireless device via the second band are simultaneous.

15. (Original) The method according to claim 14, wherein coverage areas of the corresponding uni-directional and omni-directional transmission are substantially similar.

16. (Currently Amended) A wireless device, comprising:
a dual-band wireless transceiver capable of wirelessly transmitting using first and second wireless bands; and
a smart antenna,
wherein payload data is uni-directionally transmitted during a time period using the smart antenna on the first band without having to reserve the first band prior to the transmission of the payload data and without sensing for communication activity on the first band prior to transmission; ~~and~~
wherein second payload data is simultaneously received during the time period using the smart antenna on the second band; and
wherein the transceiver omni-directionally transmits further payload data on the second band having reserved the second band prior to transmitting the further payload data.

17. (Original) The device according to claim 16, wherein the device is an access point.

18. (Currently Amended) The device according to claim 16, wherein the first band is ~~5 GHz~~ a 5 GHz band and the second band is ~~2.4 GHz~~ a 2.4 GHz band.

19. (Original) The device according to claim 16, wherein prior to uni-directionally transmitting the payload data via the first band, the device determines a location where the payload data is to be transmitted.

20. (Original) The device according to claim 19, wherein the uni-directional transmission of the payload data via the first band and the omni-directional transmission of the further payload data via the second band are simultaneous.

21. (Original) The device according to claim 20, wherein coverage areas of the corresponding uni-directional and omni-directional transmissions are substantially similar.

22. (New) A method for wireless communications, comprising:

a first wireless device transmitting downstream payload data addressed to a destination wireless device exclusively using a high frequency band during a time period, the downstream payload data being transmitted as a plurality of sequential downstream data transmissions, the first wireless device transmitting the downstream payload data without having to make preparatory transmissions to reserve the high frequency band prior to transmission;

during the time period and between two of the sequential downstream data transmissions, the first wireless device receiving respective upstream payload data from at least one additional wireless device exclusively using a low frequency band that does not overlap the high frequency band.

23. (New) A method according to claim 22, further comprising:

during the time period and between two of the sequential downstream data transmissions, the first wireless device receiving upstream acknowledgment data from the destination wireless device, the upstream acknowledgement data acknowledging receipt of downstream payload data by the destination wireless device; and

during the time period and between two of the sequential downstream data transmissions, the first wireless device transmitting downstream acknowledgement data to the at least one additional wireless device, the downstream acknowledgment data acknowledging receipt of the upstream payload data by the first wireless device.